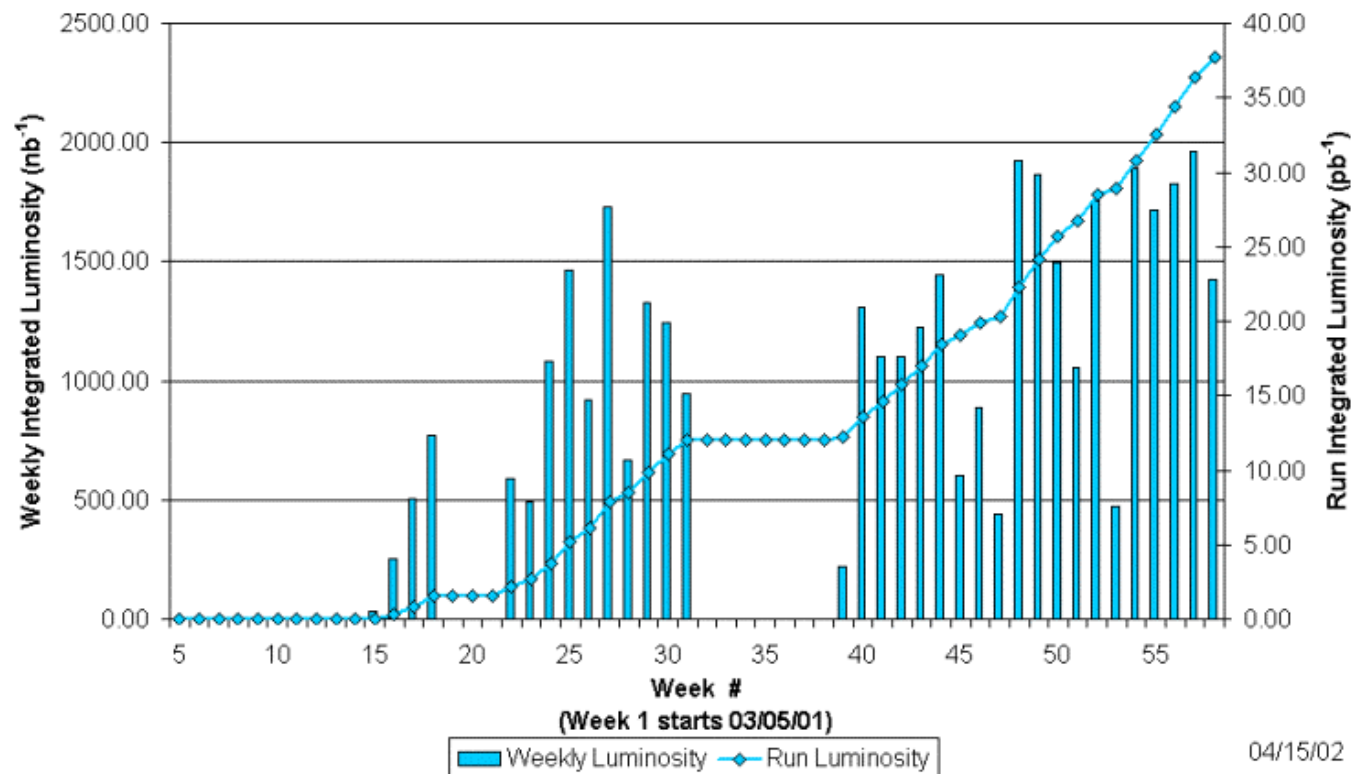


# *Integrated Luminosity*



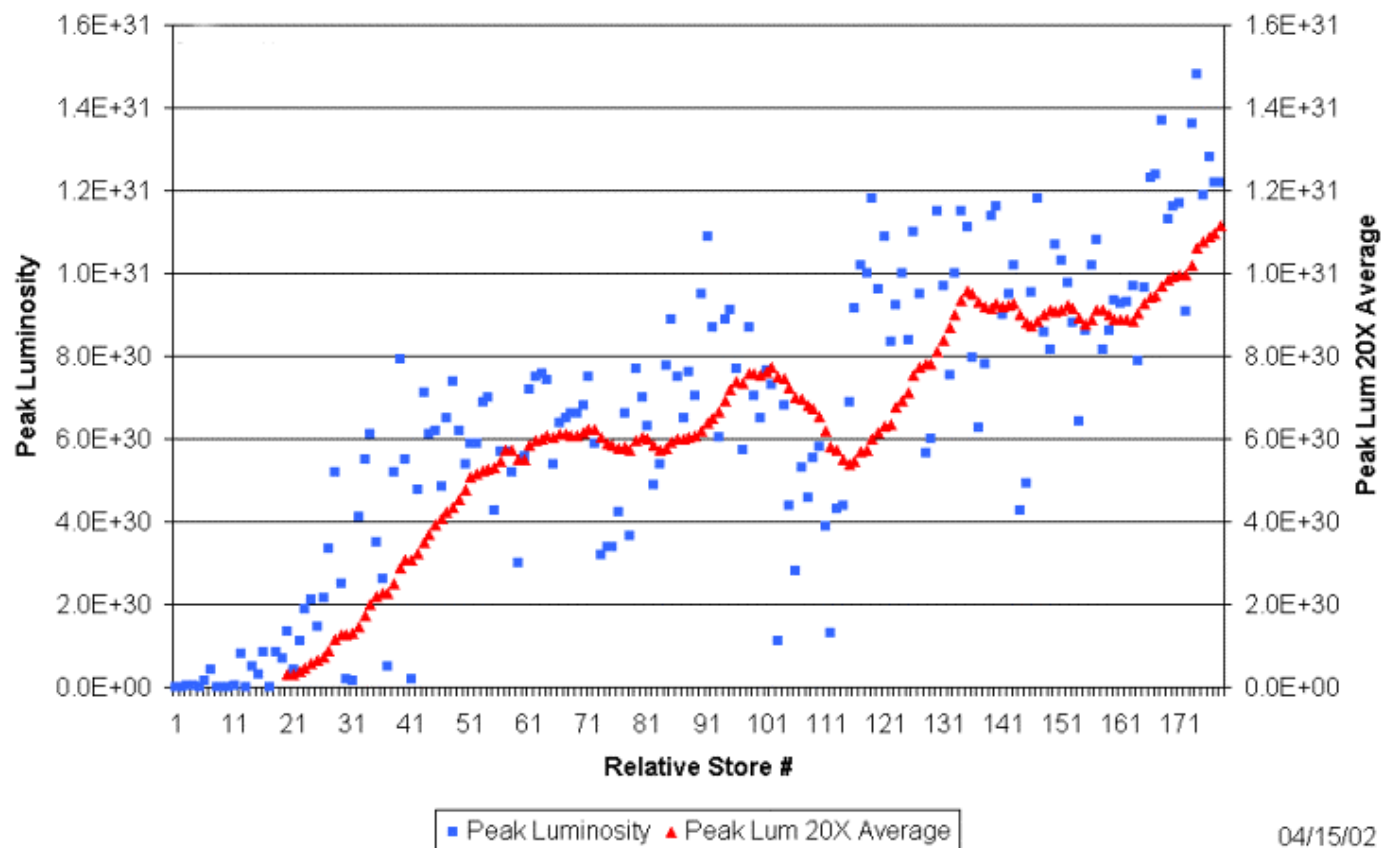
**Collider Run IIA Integrated Luminosity**



# Peak Luminosity

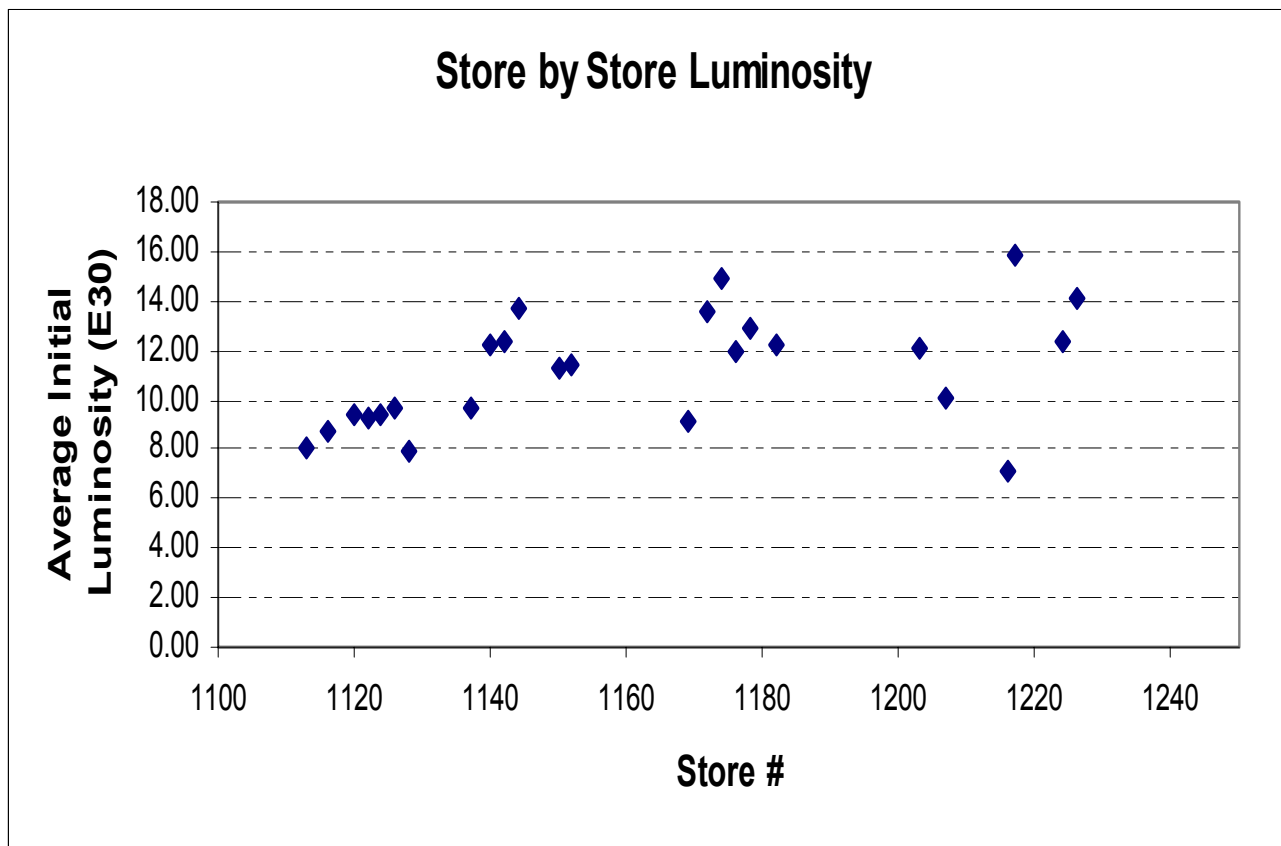


Collider Run IIA Peak Luminosity

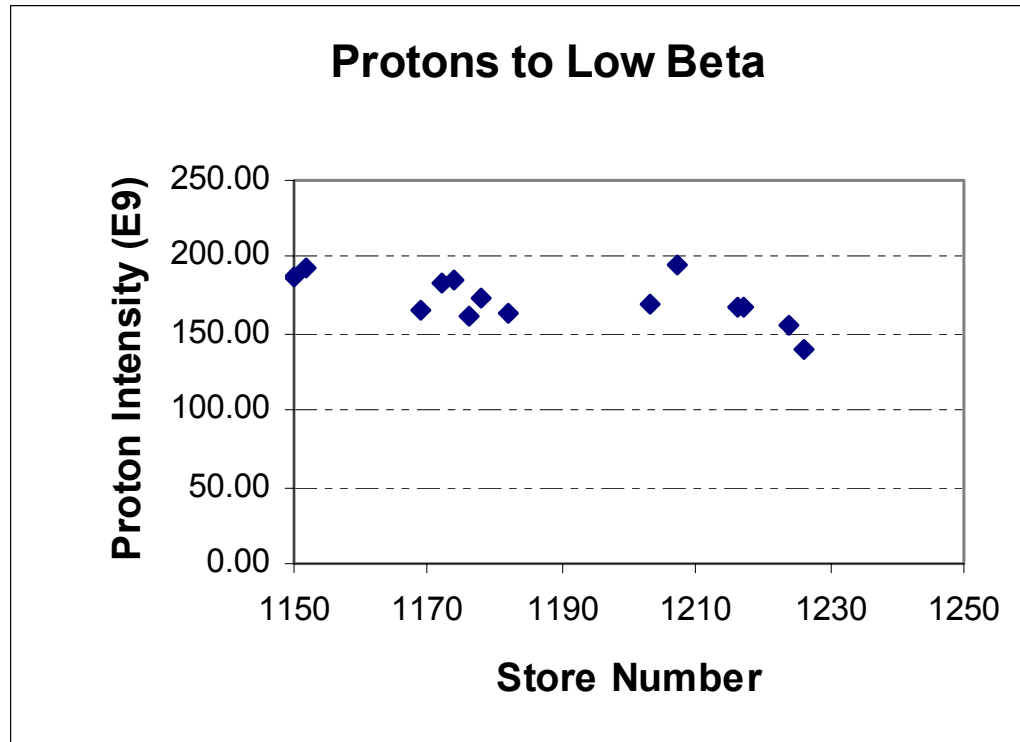


04/15/02

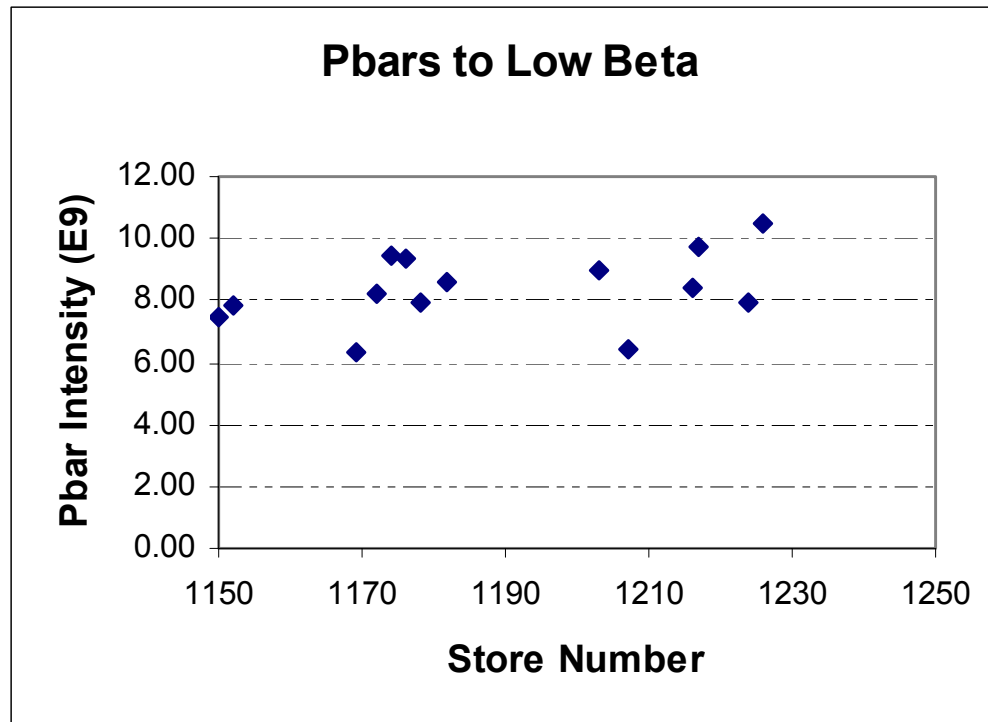
# *Initial Luminosity*



# *Protons to Collision*



# *Pbars to Collision*

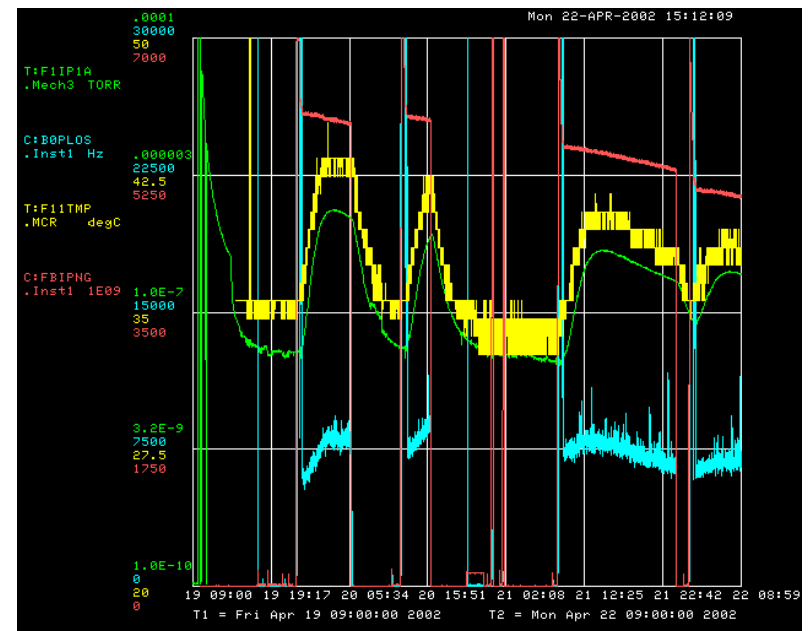
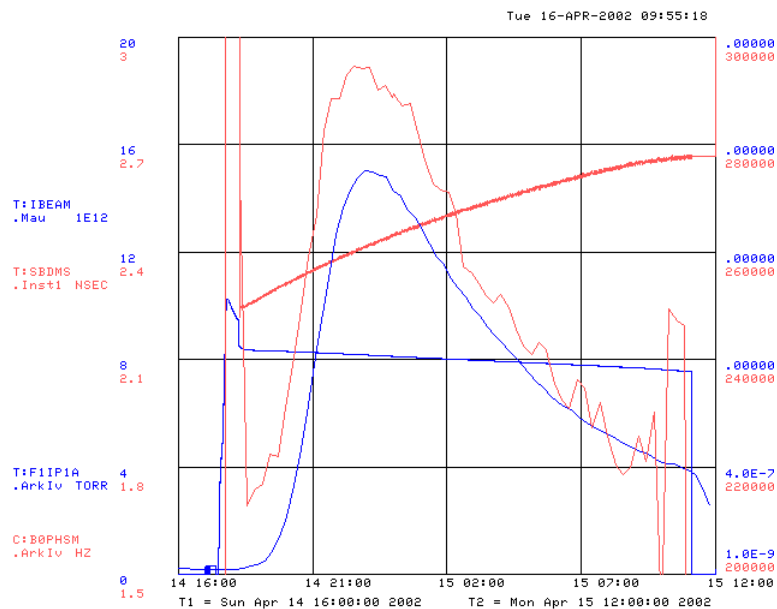


# *Tevatron Studies Summary*

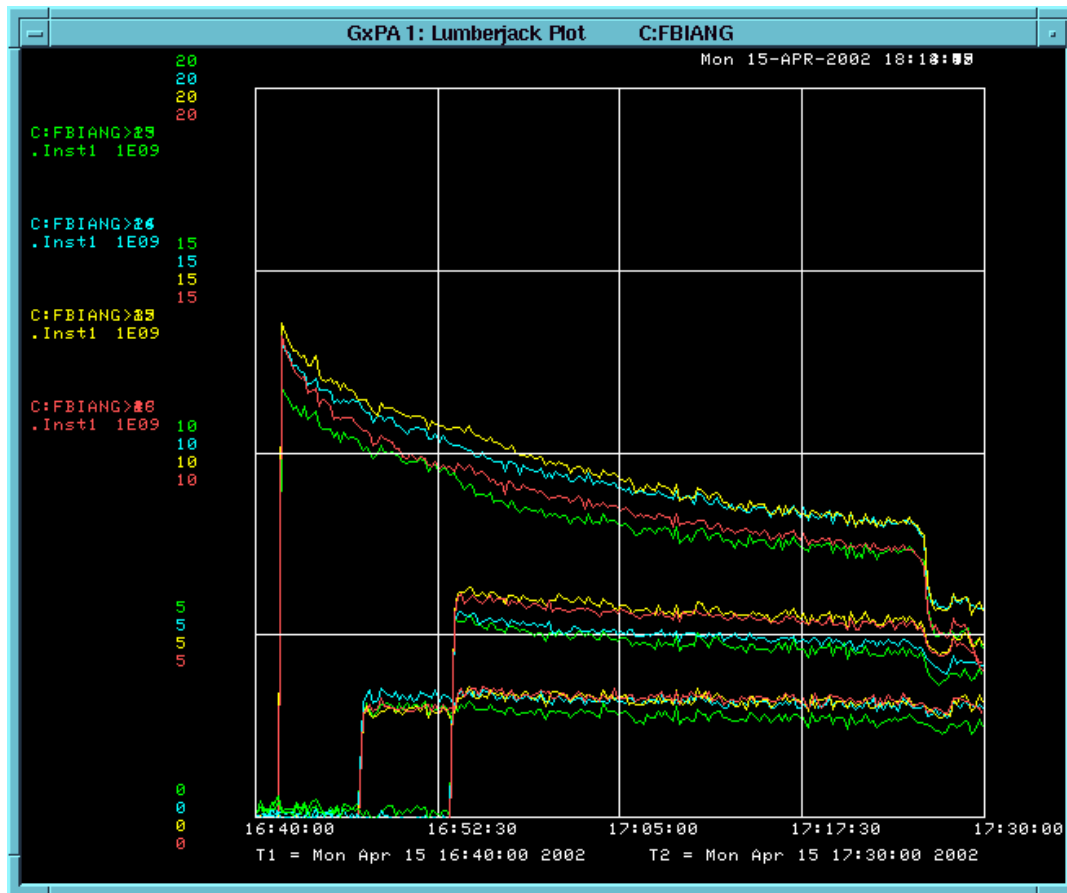


- F11 bake
- 150 GeV lifetime
- Octupole study
  - stabilize beam w. low chromaticity
- Experimental support
  - proton only stores

# Tevatron Studies Summary



# Tevatron Studies Summary



MI Hor Scraped Emittance

? A1-4

$9\pi$  A13-16

$12.3\pi$  A25-28

Measured Vertical Emittance

$32\pi$  A1-4

$12\pi$  A13-16

$18\pi$  A25-28



# *Pbar Studies Summary*



- More IBS studies
- Transverse thermostat

# *Pbar Studies Summary*



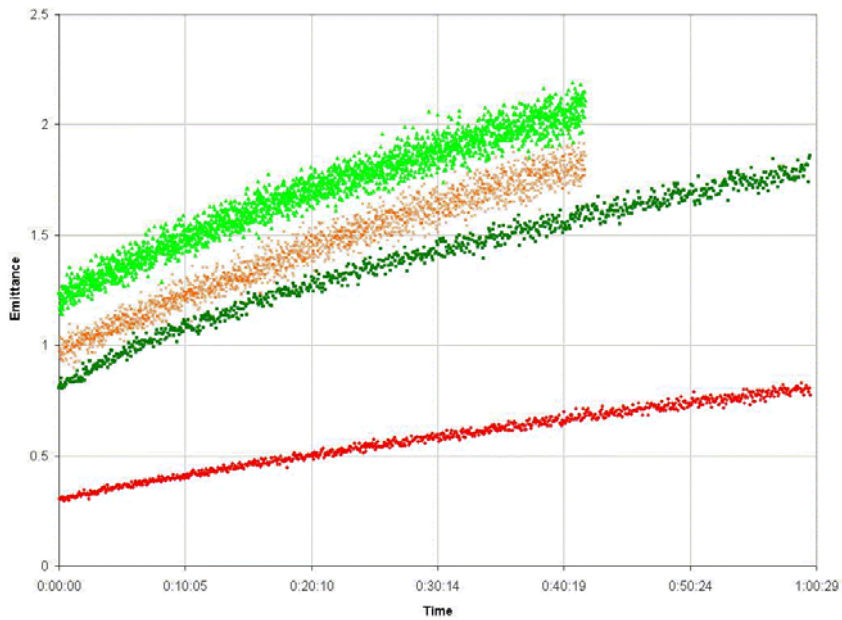
- New lattice IBS studies – previous week
  - Pbar stack moved to central orbit
  - change the lattice
  - compare heating rates
- Conclusions – previous week
  - The 4-D and 6-D phase space products showed almost a factor of 3 lower emittance and growth rate
  - The initial conditions between the current lattice and the study lattice were not the same, another study needed

# *Pbar Studies Summary*

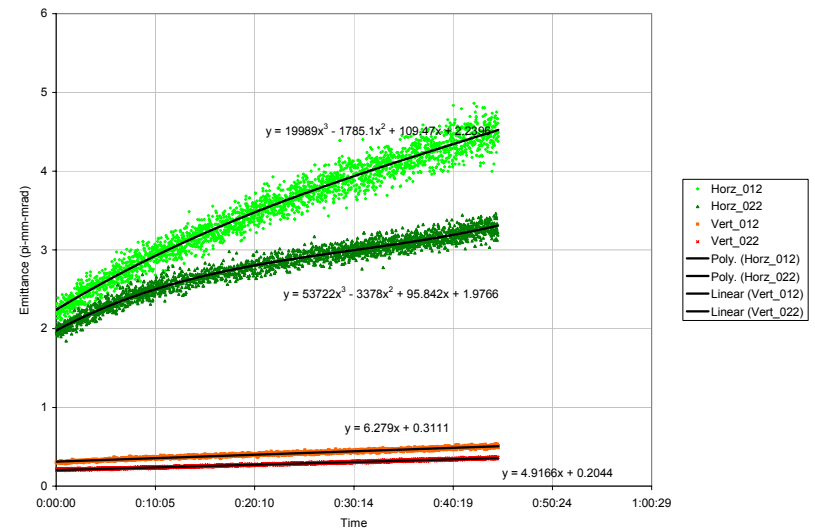


- New lattice IBS studies – this week
  - Pbar stack moved to central orbit
  - change the lattice
  - compare heating rates
- Conclusions – this week
  - Effect of IBS less conclusive
  - Modeling
  - More study time

# *Pbar Studies Summary*



## Emittance Growth II

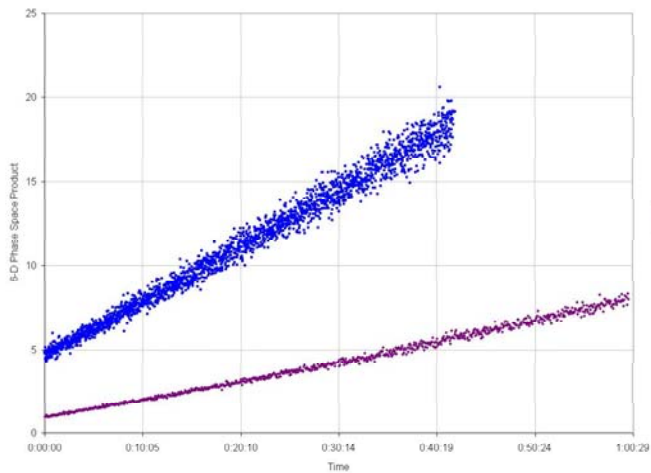


## Transverse Heating Rates

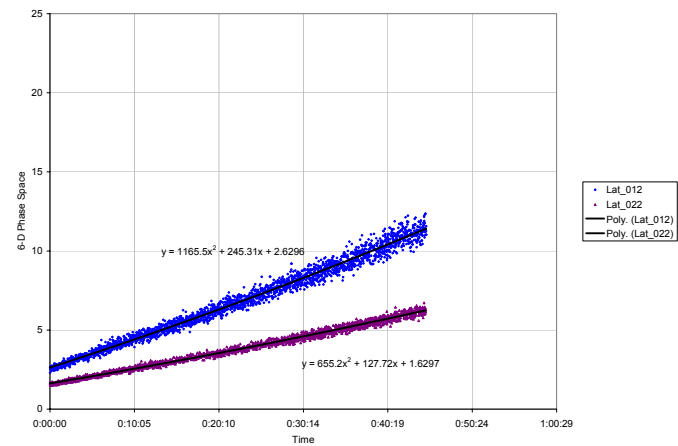
# *Pbar Studies Summary*



## 6-D Phase Space Growth

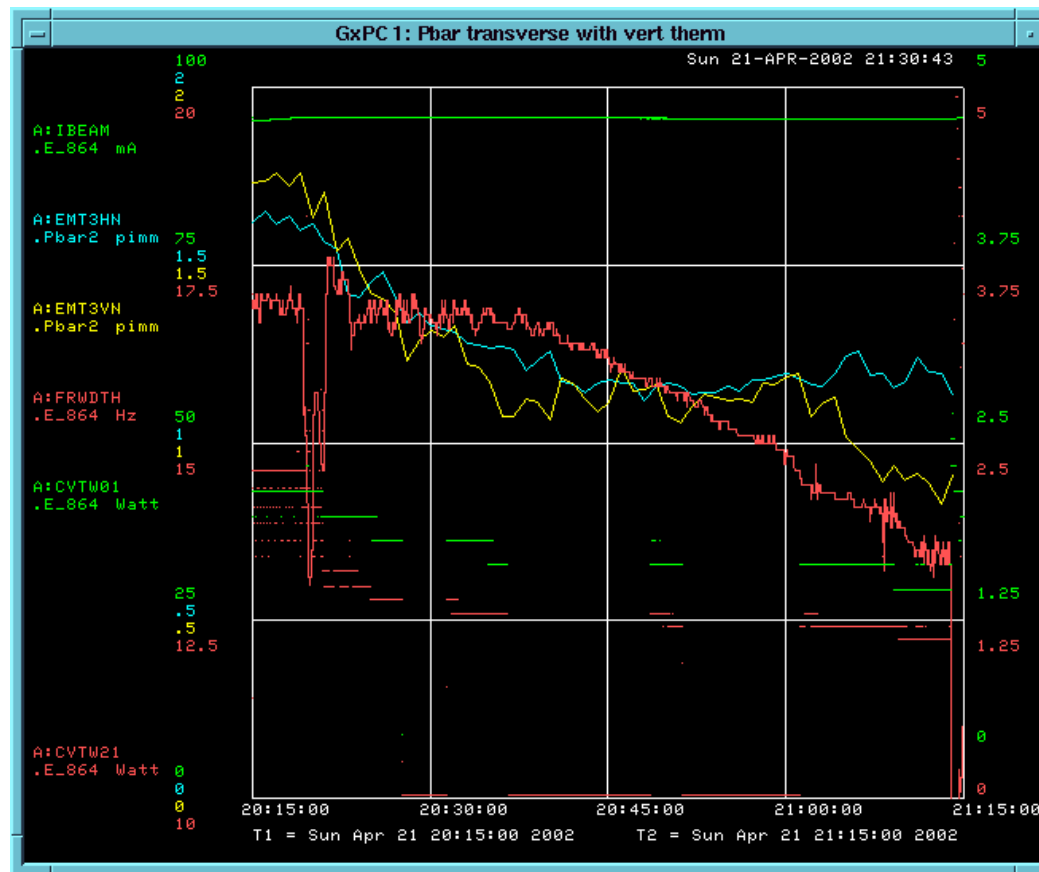


## 6-D Phase Space Growth II



# *Pbar Studies Summary*

f



# *MI Studies Summary*



- Beam loading compensation
- Longitudinal emittance

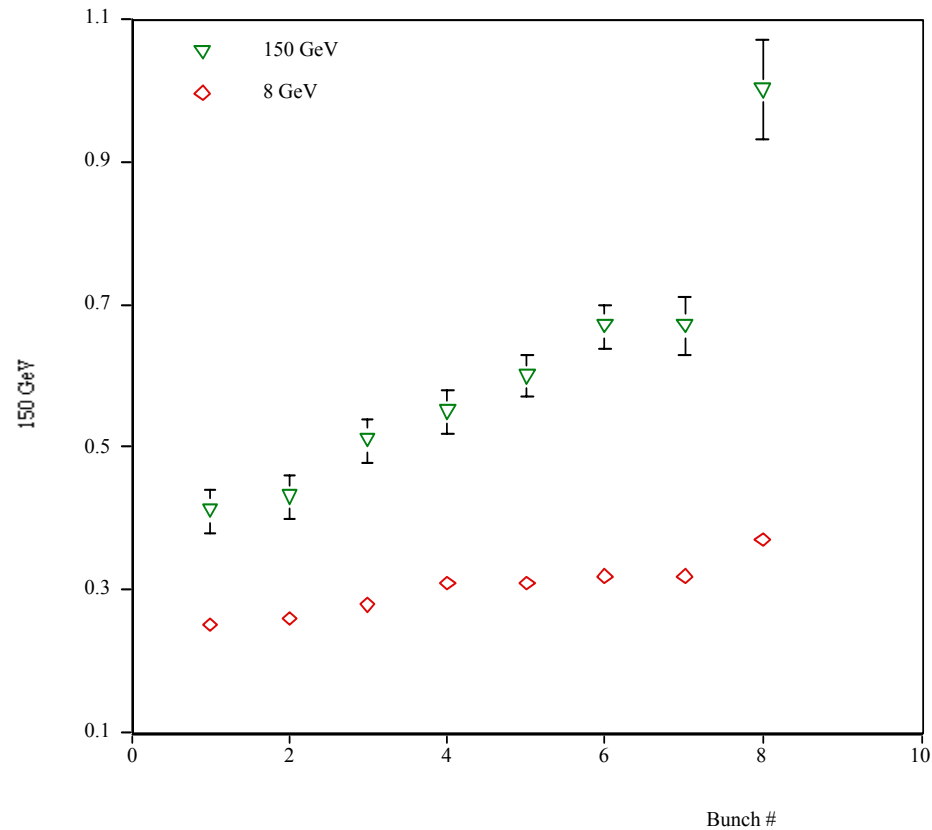
# *MI Studies Summary*



- ❑ Applied feed forward beam loading compensation on two RF stations (stations 1, 2) by using the same up-convert/down-convert module and the fan-out cables from the MI-60 control room.
- ❑ All the parts needed to modify the rest of the rf stations have been received.
- ❑ It is estimated that will take 8-10 hours to modify the rest of the 16 RF stations.



# *MI Studies Summary*



# Recycler Studies Summary

f

